

Article XLI.—A NEW SLUG FROM THE HIMALAYA MOUNTAINS.

BY T. D. A. COCKERELL.

Some time ago Mr. L. P. Gratacap kindly transmitted to me for study a large slug collected by Mr. C. William Beebe, the distinguished ornithologist and explorer, when searching for pheasants in northern India. The specimen is labelled Garhwal, May, 1910.

Mr. Gratacap expressed the opinion that the slug was undescribed, and this proves on examination to be correct.

***Anadenus beebei* n. sp.**

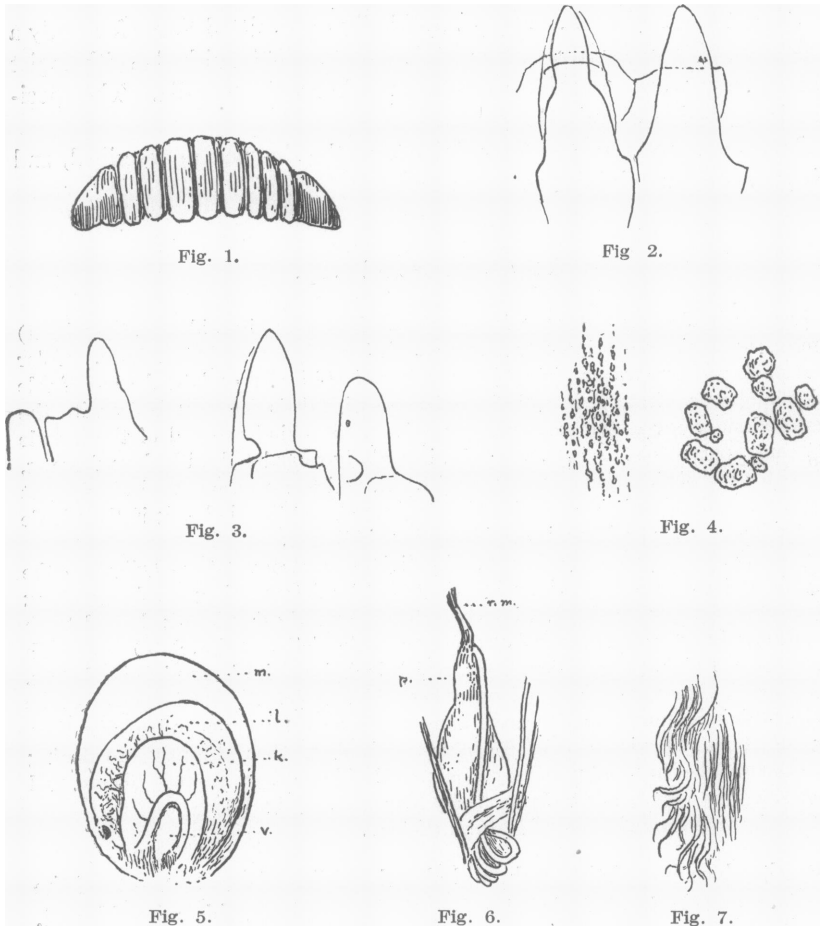
Length (in alcohol) 106 mm.; length of mantle 36 mm., its width (flattened out) 27 mm., the respiratory orifice 23 mm. from anterior end; width of sole 17 mm. Color (in alcohol) warm ochreous, the neck suffusedly blackish above; lateral areas of sole dark plumbeous. Mantle irregularly reticulate with deep furrows; body with the usual oblique grooves, the primary ones below and behind the end of the mantle 2–2½ mm. apart; sole, except anteriorly, irregularly reticulated with deep furrows, and with very distinct plumbeous lateral areas, which are narrow and obsolescent anteriorly, gradually widen caudad, but become narrow at the hind end; in the middle of the animal each lateral area is as wide as the middle one.

Jaw (Fig. 1) dark chestnut brown, with eight very strong flattened ribs, but the ends (about ¾ mm.) ribless. Lingual teeth normal for the genus in general characters; central teeth long and narrow, with the ectocones poorly developed; lateral teeth without or with only poorly developed accessory denticles. (Figs. 2, 3.) Stomach very large, containing vegetable matter, which includes quite large pieces of leaves. Lung normal, kidney considerably longer than wide. (Fig. 5.) Shell a membranous plate containing minute calcareous granules, much more numerous and smaller than those of *Arion*. Penis-sac (Fig. 6) narrow apically, rather abruptly broadening above the middle, the basal part very stout; the inside walls are strongly plicate, and on one side bear very many tapering fleshy filaments. (Fig. 7.)

Type in American Museum of Natural History.

By the character of the teeth, and also the oblique lateral grooves of the body (except that in *A. beebei* they are closer together), this resembles *A. giganteus* Heynemann, but it differs entirely in the shell. The jaw of *A. giganteus* has fourteen ribs, whereas that of *A. beebei* has only eight. The color of the sole is also distinctive.

A. beebei cannot be the species named *A. insignis* by Godwin-Austen, but scarcely described, as that is said to resemble *A. jerdoni*, and to differ in the character of the dorsal and lateral grooves from *A. giganteus*.

Fig. 1. Jaw of *Anadenus beebey*.Fig. 2. Central teeth of *Anadenus beebey*.Fig. 3. Lateral teeth of *Anadenus beebey*.Fig. 4. Calcareous granules in shell of *Anadenus beebey*.Fig. 5. Mantle, etc. from beneath, of *Anadenus beebey*. m. = mantle; l. = lung; k. = kidney; v. = ventricle.Fig. 6. Penis of *Anadenus beebey*. r. m. = retractator muscle.Fig. 7. Processes on inside of penis-sac of *Anadenus beebey*.

The shell, jaw and teeth readily distinguish our slug from *A. altivagus*. Pilsbry and Godwin-Austen both show the kidney of *A. altivagus* as very broad-oval; in *A. beebei* it is considerably narrower. I do not find calcareous spines in the penis-sac, but instead very numerous tapering fleshy processes. Pilsbry found minute processes in the specimen he dissected, which he referred to *A. altivagus*. The penis-sac in our slug is not at all like that figured by Pilsbry; it is rather similar in type to Godwin-Austen's figure of *A. altivagus*, but differs greatly in the proportions of the parts.

Comparison with the other Indian species does not indicate any close similarity, and the more recently described *A. dautzenbergi* Collinge, *A. sechuenensis* Collinge, and *A. sinensis* Moellendorff are also evidently distinct.

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